

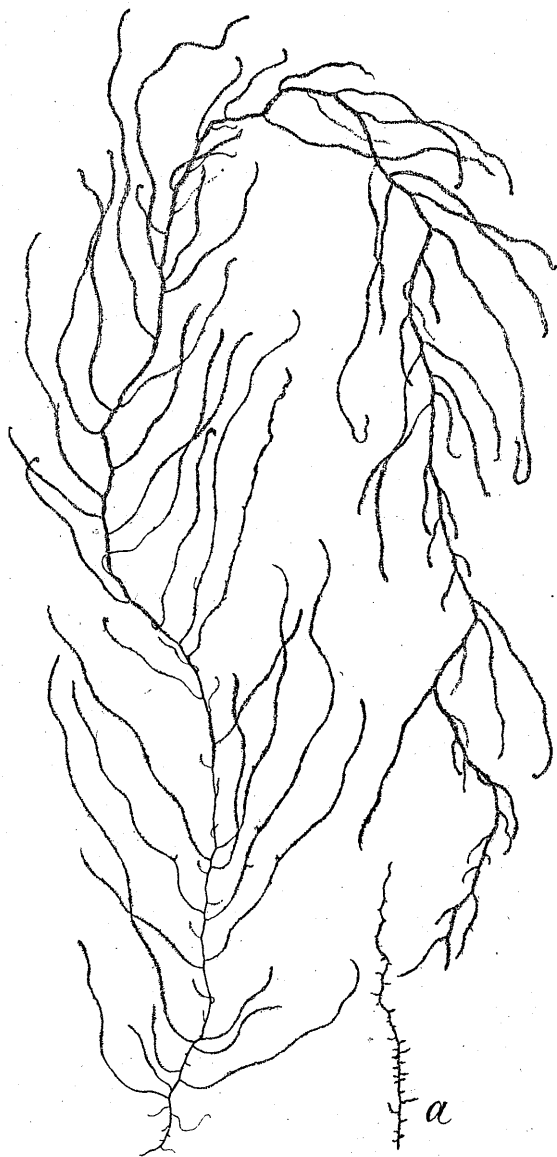
Yukio YAMADA* : On the species of *Thorea* from
the Far Eastern Asia.

山田 幸男 : 極東産のチヌデノリ属

The genus *Thorea* was created by Bory St. Vincent in 1808, and at the same time Bory described *T. ramosissima* from Europe, *T. violacea* from Bourbon Isl., *T. viridis*, and *T. pluma*, and afterward he added three other species : *T. Grateloupi*, *T. villosa*, and *T. hepatica* to them. But afterward of all these species those ones except *T. ramosissima* and *T. violacea* were removed from this genus. C. Agardh described *T. Wrangelii* and *T. Gaudichaudii* in 1812 and 1824 respectively, of which *T. Wrangelii* was identified with a species of *Desmonema* (Cyanophyceae). In 1819 Lyngbye informed *T. Lehmanni*, which is considered now to be nothing but *T. ramosissima* Bory. In 1849 *T. americana* and *T. natalensis* were described by Kützting but both species were removed from *Thorea* having been referred to the Chordariales (Phaeophyceae) together with *T. chilensis* which was described by Montagne in 1852. Then Zanardini reported *T. flagelliformis* from Borneo, but according to F. Schmitz this species is the same as *T. violacea* or at least a nearly related species of it. In 1880 Dickie described *T. Traili* from Brazil. But this species is said to be nothing but a red alga near *Batrachospermum*. Then in 1890 *T. andina* was described by Möbius from Europe, in 1892 *T. Zollingeri* by F. Schmitz from Java, and rather recently Klas reported *T. brodensis* from Yugoslavia. Thus the valid species belonging to the present genus seem to be the following ones : *T. ramosissima* Bory. *T. violacea* Bory. *T. Gaudichaudii* C. Ag. *T. Zollingeri* Schmitz. *T. andina* Lagerh. et Möbius. *T. brodensis* Klas.

Till lately we had known three places in Japan where *Thorea* grows, Shuri and several other places in Okinawa Isl., the river Sendai, Kagoshima Prefecture and the river Hizikuro, Nagasaki Prefecture. All plants from three places mentioned above were identified by the late Dr. Okamura as *T. ramosissima* Bory and protected as one of the natural monuments. But it was elucidated by the writer, that the plants which grow in the river Hizikuro, and had been passed among us as *T. ramosissima* Bory did not belong to *Thorea* but, is *Nemalionopsis tortuosa* Yagi et Yoneda (cf. Journ. Jap. Bot., vol. XIX, no 5, pp. 136-138, in Japanese). Thus there have been remained two places as the habitats of *Thorea* in Japan :

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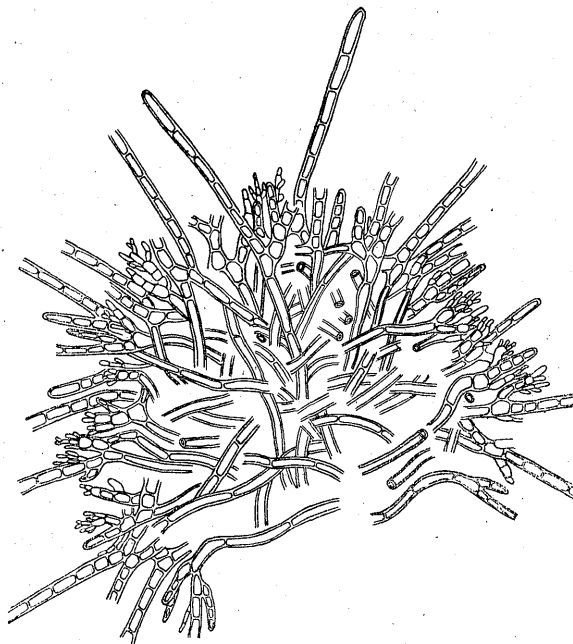


Thorea Okadai sp. n. Fig. 1. The type specimen. \times ca. $3/5$

a. A branch with short patent ultimate ramuli. \times ca. $3/5$.

Okinawa Isl. and Kagoshima Prefecture.

Having studied the habitats and plants from both places, the writer noticed several evident differences between them. As to the habitat the plant from Okinawa grows in the rather calm water e.g. on the curb of the spring while that of Kagoshima Prefecture is found growing on the gravels etc., on the bottom of



Thorea Okadai sp. n.

Fig. 2. Cross-section of frond. \times ca. 210.

the river Sendai where it is about 1-2 m. deep and water runs rather quickly. Next regarding to the structure of the frond etc. there are also found several discrepancies between the plants from both localities and the writer came to the conclusion that they are not to be referred to the same species. but to the different ones, the Okinawa specimens seem to belong to *T. Gaudichaudii* C. Ag., while the Kagoshima plant represents a new species which will be described below. On the other hand in 1942 Dr. M.M. Sato collected some specimens of *Thorea* in a river near Joshi-Kan, North China, and having studied them it seems to the writer that they are very nearly related to *T. ramosissima* Bory, most probably to be identified

as this European species.

***Thorea Okadai* Yamada sp. n.**

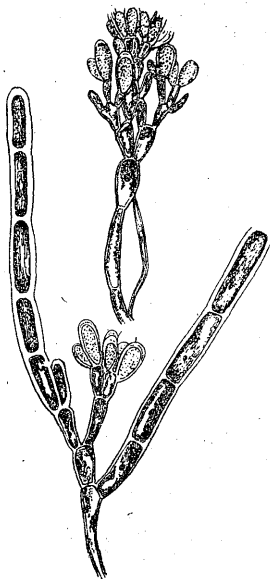
Frons solitaria vel laxe caespitosa, disco parvo affixa, filiformis, 10-40 cm. longa, (interdum 60 cm. superans) 0.8-1.5mm. crassa ad basin frondis, sursum levissime attenuata, axi principali percurrenta vel non percurrenta, irregulariter pinnatim vel repetite dense ramosa, ramis nudis vel ramulis ultimis brevissimis et patentissimis ornatis, filamentis assimilatoribus densis, simplicibus, brevibus, 150μ - 400μ longis, 10μ - 14μ crassis, ad basin leviter attenuatis, cellulis prope basin ca. 1.5-plo, ad partes superiores 2-3-plo diametro longioribus; monosporangiis obovatis, ca 10μ longis, ad ramulos e basi filamentorum assimilatorum emitentos glomeratis; colore nigro coeruleo.

Japanese name : Chisuzi-nori.

Loc. : Hishikari and Yunoo, Isa-gun, Kagoshima Pref. (the river Sendai);

Makizono-machi, Aira-gun, Kagoshima

Pref. (the river Shinkawa) (Y. Okada).



Thorea Okadai sp. n.

Fig. 3. Clusters of monosporangia. \times ca. 450.

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